# COMPARISON BETWEEN

# Perineal and Suprapubic Cystotomy,

## WITH REPORT OF CASES.

BY

A. VANDER VEER, M.D.,

PROFESSOR OF DIDACTIC, ABDOMINAL AND CLINICAL SURGERY, ALBANY MEDICAL COLLEGE.



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*Reprint from the* ALBANY MEDICAL ANNALS, *July, 1890.*

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# COMPARISON BETWEEN PERINEAL AND SUPRAPUBIC CYSTOTOMY, WITH REPORT OF CASES.*

*Mr. President and Gentlemen:*

When I received your kind invitation to present a paper on some surgical subject at this, your annual gathering, I felt very much in doubt as to my being able to offer that which would be instructive and give proper remuneration for the time spent in listening. Now that I am before you for this purpose, I desire to thank you for your kindness, and will endeavor to occupy the hour in such a way as may be of mutual benefit to us all.

The subject that I have selected for discussion is that of the "Comparison between Perineal and Suprapubic Cystotomy." We are all familiar with the honest work done by surgeons in centuries past as to the perineal incision of the bladder, but one who has studied the subject carefully cannot fail to have discovered that there has ever been restlessness in the minds of the operating surgeons, and discontent, as it were, as to the best method of opening the viscus through the perineum.

The lateral operation has always seemed to be the favorite; the median has many friends; the bi-lateral, the medio-lateral, the medio-bi-lateral, perineal lithotripsy (Dolbeau's operation), and other methods, have all been presented with earnestness, and yet it cannot be said that any one of these operations has claimed the entire attention of the profession. The operation of reaching the bladder through the rectum has also had its earnest supporters. The suprapubic incision has had fitful periods of existence. It has had the endorsement of some of the ablest surgeons at times. It has been at times considered so simple an operation that even the patient has been known to do the operation upon himself, as illustrated in the case of Jean de Tot, of Leyden, where the stone and the knife with which he performed the operation are to be seen in the museum, the operator and

* Prepared by invitation of the President, and read at the meeting of the Schoharie County Medical Society, at Cobleskill, June 3, 1890.

patient recovering. In consequence of the high mortality following, from peritonitis and urinary infiltration, the operation has never made much headway or any great claim upon operators, until a few years since, when it was so earnestly revived by Peterson, and his method of operating has made it now, beyond a doubt, one of the simplest operations for reaching the bladder. It is another illustration of the surgeon failing to make use of his anatomical knowledge, for we ought to have known centuries ago that nature had so arranged the peritoneum that the bladder could be distended and the former lifted up sufficiently to allow incision of the latter with safety. The operation upon children has always been comparatively easy and safe because of the bladder at such a time in life being high up, almost in the abdominal cavity, and the peritoneum not in the way of the operation.

I am frank to say that in my first operations upon the bladder for the removal of calculi, foreign substances, tumors, and to relieve cystitis, I felt there was no other road than by the perineum, and I am equally frank to admit to-day that I know of no operation so brilliant as that of perineal incision by any of the methods suggested, and where close knowledge of the anatomy is of so much service in enabling one to do a very quick operation. I would say just here that, so far as time is concerned, we can reach the bladder through the perineum quicker than we can by the suprapubic method; but then, the complications associated with the perineal incision are very much greater. In the child, or in the adult, serious injury may be done to the ejaculatory ducts, and impotency result. Then, again, if perineal fistula results, it is very troublesome to heal it; also the danger of hemorrhage is at all times very grave. The rectum is not always free from possible injury, and in the old man with enlarged prostate, the danger of hemorrhage is so great that death does at times result from shock due to the sudden and severe loss of blood in incising the large veins and vessels that may be present.

Suprapubic cystotomy does not present any of these complications. The hemorrhage is exceedingly slight, shock to the system very little. The one real danger is the possibility of having a contracted bladder with adhesions, in old men, which cannot be dilated, and in such cases there is danger that the peritoneum may be wounded.

The subject of drainage has received more attention in the discussions that have taken place regarding the relative merits of the two operations than any other condition. The consensus of opinion at the present time, I am inclined to believe, is in the direction that drainage can be secured

quite as well by the suprapubic method, and with decidedly more comfort to the patient, than through the perineum. I have seldom listened to a paper that has afforded me more satisfaction than the one presented by Dr. Hunter McGuire, of Richmond, Va., at the meeting of the American Surgical Association, in September, 1888, on the subject of the "Formation of an Artificial Urethra in Prostatic Obstruction," which was full of original ideas. In another paper published in the *Medical News* for May 17, 1890, Dr. McGuire reports twenty-one cases of suprapubic cystotomy, with remarks, and on the subject of drainage says: "From my observation of drainage in the cases of suprapubic cystotomy in the male, I find it more complete than in drainage after sections through the perineum. In theory it may not be so, but in practice I have found it to be the case."

The pathological conditions that call for operation of the bladder may be summed up as follows:

Acute and chronic cystitis, the latter having resisted all other forms of treatment; tumors of the bladder and prostate, and these may be divided into two kinds, malignant and non-malignant. Of the tumors of the bladder the papillomatous form, non-malignant, may be looked upon as occurring most frequently, and which give the characteristic symptoms of hemorrhage from the bladder proper. Even in the malignant form of tumors of the bladder great comfort is sometimes afforded by giving the patient the benefit of a suprapubic fistula, especially in such cases where it becomes almost impossible to introduce instruments through the natural channel. Tumors of the prostate gland, especially that variety known as fibroid or myoma, the kind which often gives our patient the greatest amount of suffering from the retention of urine, producing chronic cystitis and all its allied complications. Vesical calculi, more especially associated with chronic cystitis and sacculated bladder, and where the calculi are multiple; impassible form of stricture, and especially where there have been numerous abscesses in and about the perineum, leaving many fistulous tracts through which the urine escapes, and in which it is almost impossible to do an external perineal urethrotomy, because of the inability to get the guide in the proper channel; inflammation of the prostate with retention of urine, and where the introduction of the instrument gives great suffering. In the female, loss of the urethra following difficult deliveries, or as a complication of the operations that may have been done in the neighborhood. But by far the most frequent condition which presents is the enlarged prostate in advanced life, at a time when the comfort of the

patient is to be seriously considered, when the sympathy of his family is thoroughly aroused, and when we know but too well that the use of instruments is frequently only temporary and of little permanent good. For many years I had observed in my autopsies upon old men, and in cases where retention had occurred, that the cause was frequently due to a valve-like projection of the middle lobe or isthmus of the prostate. It is in such cases that we have the inferior fundus of the bladder developing. Ammoniacal urine is retained, becoming very offensive; and, like all cases in both male and female wherever there is mechanical obstruction of the passage of the urine, it is sure to end in either cystitis, ureteritis, pyelitis or pyelo-nephrosis. It seemed to me years ago that if we had some way of reaching the bladder in these cases for the removal of hypertrophied growths that we would be doing our patient great service. On this subject Dr. Belfield, of Chicago, has given us a most admirable short paper in the *Medical Record* for March 10, 1888. Sir Henry Thompson, of London, and Mr. Harrison, of Liverpool, have written very ably upon the subject of treatment of the enlarged prostate, the former having changed his views from the perineal incision to the suprapubic, favoring the latter. Mr. Harrison still clings to the perineal route, believing that it affords greater facility for drainage.

In my early cases of the treatment of chronic cystitis, exploration of the bladder for suspected tumors, unsuspected stone, etc., I did the perineal incision a number of times, but did not get the results I always hoped for. In the case of two young men upon whom I operated for chronic cystitis, the difficulty of keeping in the drainage tube was very great, and the annoyance to the patients of constantly wetting the bed and clothing was so great that at times they became almost dicouraged before convalescence took place. Then, in doing the perineal incision through an enlarged prostate, I have found it exceedingly difficult to explore the bladder, because of my inability to get my finger thoroughly inside, and yet I believe my finger is of the fair average length of operators. Aside from that, there is the loss of blood, which must be taken into consideration in many of the cases where the patient is not very strong. Taking it, then, all in all, I must say that when we consider the simplicity of the suprapubic operation, the little blood that is lost, the very slight danger of wounding the peritoneum, the ease with which our finger can be made to search every portion of the bladder, and in cases where there is little hemorrhage make use of the electric light and see directly the kind and nature of the tumor that we have to deal with, I am

strongly impressed that the suprapubic operation is by far the best.

In children, perineal lithotomy is growing less and less, if one but watches the tone of the medical journals and the results reported in papers presented by some of our best operators. In boys, particularly, as has been stated, it may do serious harm in causing impotency and arrest of development of the sexual organs. Litholapaxy, or crushing the stone, in children, where one has but a single stone to deal with, is attracting great attention. Instruments are now made so small, and yet so effective, as to make this operation possible. At almost any age of life there are undoubtedly many cases and pathological conditions of the bladder in which the suprapubic operation will be done, but more especially in the adult.

I would not be understood as recommending the suprapubic incision in cases of enlarged prostate without every other means of treatment having been tried and exhausted. We have now at our command such excellent instruments that catheterization, in many cases, is all that is really required to make our patient comfortable; but when we see the suffering caused by the desire to urinate frequently, the broken sleep, the complications that attend continual straining, such as hemorrhoids, fissure of the anus, etc., I believe we are doing our patient great service to recommend cystotomy in some form.

The steps for the suprapubic operation are very simple. The patient's bowels should be thoroughly evacuated the day previous to the operation, and five or ten grains of quinine should be given the night before and the morning of the day of the operation. On morning of the operation the patient's bowels should be thoroughly washed out by rectal enema. If this is neglected, there may be some complications in using the rubber rectal bag. The patient the day previous to the operation should have a good, thorough bath, and clean clothing the morning of the operation; parts should be thoroughly shaved, and a bath of bichloride (1 to 2000) made use of; thorough antiseptic precautions should be carried out in every respect. A simple scalpel, a few artery clamps, some catgut ligatures, a large curved tenaculum, with two well-curved needles properly threaded, a rubber rectal bag, a good Davidson syringe, proper urethral catheter, a piece of rubber tubing about a foot in length, and you have really all the instruments that are necessary. Patient's breakfast should consist of very light food. I prefer generally to do all my operations at about eleven A. M., if possible. I prefer ether as an anæsthetic, and when the

patient is well under its influence have him placed upon a narrow table in front of a good light; an assistant is then instructed to introduce a collapsed rubber bag, Barnes' dilator, pig's bladder, or even the fingers of the assistant may be made use of in the rectum for lifting the bladder up, and the reason why it is advisable to have assistant do this is that the operator ought not to let his fingers become soiled with this step in the operation. After the rubber bag has been introduced in the rectum, I then inject from ten to twelve ounces of moderately hot water into it, which will raise the bladder considerably above the symphysis, and do no harm to the rectum. The stop cock of the rubber bag is then closed, and then the next step is to introduce a rubber or silk catheter into the bladder, wash out the same thoroughly with a solution of boric acid, a dram to a pint of hot water, leaving in the bladder from eight to ten ounces, being somewhat careful in old men not to dilate the bladder too much; removing the catheter, you fasten about the penis the short rubber tubing to retain fluid in bladder. You will then observe that the bladder has been raised above the symphysis sufficiently so that you have a space from two to three and one-half inches in which to make your incision without any fear of wounding the peritoneum. The prominence of the symphisis is to be located and to mark the lower end of the incision through the soft part. The incision can then be made in the median line, through the linea alba, beginning at a point three or three and one-half inches above the symphisis, dissecting directly down between the recti muscles; after having passed through them, you come upon the prevesical fat, a layer of adipose in which are to be observed quite a number of large vessels. What slight hemorrhage has occurred up to this time can be controlled with the simple artery clamp. This fold of adipose must be lifted up carefully by means of the finger, when the bladder generally comes in view, and is held in position with the tenaculum. You then pass through the coats of the bladder, on each side of the tenaculum, a curved needle, entrusting each ligature to the assistant. The bladder is now incised along the tenaculum, and your finger passed rapidly in. As the flow of water escapes you will be able at once to make out the pathological condition present. If it be a simple stone, it can be removed with the forceps. It may be necessary to enlarge the incision. It may also be necessary to make a slight transverse cut of the recti muscle to enlarge the opening. Tumors connected with the coats of the bladder may be removed with the snare, with the forceps, with your finger or with the curette, and the thermo-cautery may be ap-

plied afterwards. Tumors connected with the prostate may be removed in a similar manner or they may be crushed or cut off with forceps made for such purposes. You really have every thing under your control for the time being. Benefit is then derived by lifting the hips of the patient, after the Trendelenberg method, the contents of the abdomen will fall back towards the diaphragm, and in this way the bladder is somewhat more exposed to view. After the operation has been completed, and if it be found to be a case of simple stone with no chronic cystitis, it is possible to close up the incision in the bladder at once by interrupted suture, closing up the external wound in like manner, when rapid primary union will take place in many cases. But in many cases, especially where the condition is such that we desire to establish a suprapubic fistula, then a somewhat different procedure becomes necessary. Dr. Hunter McGuire does not care to make use of any drainage tube. He leaves the wound open to a great extent and depends upon the urine being kept in an acid condition, as this condition, we well know, is aseptic; but, for cleanliness of the bed and the patient, I have felt disposed in my operations to make use of the Trendelenberg drainage tube such as I here show you. As the operation is completed the bladder is thoroughly washed out with a solution of boric acid, a dram to the pint of hot water, and the tube is then left within the bladder. Around it I close the walls of the bladder by catgut sutures cut short. The next step in the operation is the bringing together of the external incision by means of an interrupted suture, which may be of silk or catgut, as one thinks best, closing in around the drainage tube. By means of a short glass tube the drainage tube can be connected with a long piece of rubber tubing and then allowed to drop down by the side of the patient, either within or without the bed, into a bottle or dish containing an antiseptic solution, and in this way drainage is established without disturbing the patient, in the way of wetting the bed, etc. Patient is allowed to lie upon either side or back, as may suit his comfort. Drainage tube may be removed, if it becomes painful, within a few hours after operation, or may be kept in for several days or weeks, for that matter. When the incision shows a strong disposition to fill in, a silver plug may be worn by the patient for two or three hours at a time, and then he can urinate in a distinct stream and with great comfort. This opening can be maintained for as long a time as the case seems to require. Absorbent cotton, with or without iodoform or bichloride, or iodoform gauze, may be

applied about the wound to keep it in a healthy healing condition. Parts will generally heal pretty promptly.

The following cases upon which I have operated will help to illustrate suprapubic cystotomy.

CASE I.—Referred to me by his physician, Dr. Casey, of Ilion. Mr. L. H., æt. 46 years, married, native of United States, and by occupation a carpenter, entered my service for the third time, at the Albany Hospital, November 26, 1888. The clinical history is as follows: Father and mother died at an advanced age; whole family very vigorous; an uncle died of cancer; patient himself was never strong. When a youth he was thrown from a horse and sustained a rupture of the left testicle. Since the accident he has always suffered from local neuralgic pain. After continued treatment, I removed the testicle, which was atrophied, December, 1885, with complete relief. At this time he had a slight hemorrhage from the bladder, but continued in good health until the spring of 1887, when there was a return of the hæmaturia, together with vesical tenesmus and retention of urine. This condition did not improve, and he entered the hospital December 28, 1887. The urine contained pus, blood and mucus, but the kidneys seemed free from disease. The exploration of his bladder with the searcher was attended with great difficulties, and could only be accomplished under anæsthesia. An irregular mass could be made out on the left side of the bladder. January 3, 1888, I operated for removal of the growth. The incision for median lithotomy was made into the membranous urethra, the neck of the bladder dilated, and a mass the size of a small orange removed by the use of the curette and forceps. The bladder was irrigated with a borated solution, and a full-sized catheter introduced through the perineal wound for drainage; the patient recovered with usual after-treatment and returned to his home. After his discharge he continued the irrigation of the bladder per urethram, and for a time was in a fair condition of health. However, during the summer of 1888 there were slight hemorrhages, and later his old symptoms returned. I advised that he re-enter the hospital and submit to a suprapubic cystotomy. November 30, 1888, the operation was done. The incision was somewhat embarrassing, as the abdominal walls were very fat. The digital exploration of the bladder revealed a papillomatous mass as large as an apple on the left and anterior wall of the bladder. This was removed with finger and curette. Hemorrhage was very free, but was controlled by irrigation with hot borated solution. A drainage tube was introduced and the lower portion of the wound closed. A syphon was attached

to the drainage tube and carried over the side of the bed into a vessel. An attempt was made to acidulate the urine by a free administration of citric acid, thereby producing asepsis. Patient did well. Bladder was freely irrigated through the wound with comfort to the patient. His appetite was capricious and he remained in the hospital for some time. The healing of the wound was somewhat embarrassed by the deposit of phosphates around the edge, with slight suppuration. He returned to his home, although a slight cystitis remained, which was relieved by irrigation. He has kept me informed as to his condition, and is now, after eighteen months, free from his old symptoms.

Case II.—Mr. D. S., æt. 19 years, single, native of United States, and by occupation a clerk, entered my service at the Albany Hospital April 26, 1889, by advice of his physician, Dr. Phillips, of Gloversville. Family history good; previous health good. November, 1887, patient was seized with a chill, pain in the head, back and pelvis, high fever and frequent micturition. A severe cystitis followed. The urine was ammoniacal, filled with pus and mucus, and at times clots of blood. An attempt at irrigation caused so much distress that it could not be repeated. During the latter part of 1888, patient began to have attacks of vesical spasm, requiring much morphia to afford relief. He could not assume an upright position. In this condition he was brought to the hospital. Exploration of the bladder, either by sound or cystoscope, was impossible without anæsthesia. I advised suprapubic cystotomy. The operation was done May 8, 1889. Section revealed a bladder free from stone, but with contracted and thickened walls. Mucous membrane was studded with tubercular masses, many of which had broken down into ulcers. The wound was partially closed with sutures and a soft rubber drain introduced. Spasm compelled immediate removal of drain. Hypodermic injections of distilled water would at times relieve the pain. Bladder was washed with borated solution. His appetite improved, and he gained in strength. Sinus did not close, but when the bladder was washed through the urethra, solution and urine came from it. During December, 1889, he became worse, and died December 30, 1889. No autopsy permitted. This patient was made very much more comfortable by the operation. In another like case I would make the incision into the bladder more free, dressing the latter with iodoform solution in oil, by means of strips of gauze, and attempt to get healing of the tubercular points primarily, keeping up a fistulous opening, by means of a silver plug, as long as possible.

CASE III.—Mr. H. D. W., æt. 47 years, married, native of United States, entered my service at the Albany Hospital, by advice of Dr. Matteson, Morris, N. Y., March 7, 1889, with diagnosis of stone in bladder. Family history good. Patient had suffered for over seven years with repeated attacks of renal colic. After one of these attacks he had severe burning pain in penis, but at that time I was unable to find calculus. Had not consulted any one from the time I first sounded him with a view to operation. For last two years has suffered severely, and was compelled six months ago to give up business. His urine now contained pus, blood and mucus in great quantities. He had hemorrhages from the bladder, and lost flesh and strength. I advised suprapubic cystototomy, which was done March 9, 1889, and a single phosphatic calculus was found, weighing 530 grains. Patient left hospital with wound completely healed April 8, 1889. I saw him a year later in perfect health.

CASE IV.—Mr. R. M. F., æt. 65 years, married, native of Scotland, came to me with the following history in May, 1889: About two years ago he had passed fine sand with his urine, and suffered greatly from vesical irritability. There was pain in the glans penis, stoppage of stream and slight hæmaturia. The searcher employed at that time by the family physician, Dr. A. T. Van Vranken, failed to reveal calculus. He was treated by usual remedies, and his bladder washed out at intervals. Under this management he improved, and was in fair health until March, 1889, when all of his old symptoms returned with increased violence. The urine was ammoniacal and contained pus, blood and mucus in great quantities. There was considerable prostatic hypertrophy. The searcher revealed stone. I advised a suprapubic cystotomy and drainage. The operation was done May 29, 1889, the usual technique being employed. I not only removed one, but five, calculi from different pockets of a sacculated bladder. A Trendelenberg drainage tube was introduced, and the wound partially closed to secure sinus from bladder, after Dr. Hunter McGuire's method. The old gentleman was comfortable after operation; his bladder was washed daily with boric acid solution, and he left the hospital June 24, 1889, with the fistula established. The sinus soon healed after leaving the hospital, and the bladder returned to its normal condition. He was at my office a few days since in perfect health.

CASE V.—Mr. R. D., æt. 58 years, married, native of Ireland, farmer by occupation, was admitted to the Albany Hospital December 26, 1889, by advice of his physician, Dr. D. M. Smith. Family history good; previous history good

up to ten years ago, when he suffered from an inflammation of the bowels; habits good. Patient had been in the habit of drinking large quantities of water containing an excess of lime. He states that water used in the kitchen, which is same as he drank, leaves a thick, hard deposit in the kettle. About two years ago he noticed that he was obliged to urinate more frequently than usual—ten or twelve times during the day and seven or eight at night. Complains of pain in penis and at end of micturition passes some blood. Has had an excellent course of treatment by Dr. Smith of Cambridge. Has had to use catheter for some time. Stone found on examination, and Bigelow's operation decided upon, patient not favoring a cutting operation. This was done, and a considerable stone substance removed. December 28, 1889, in sounding this patient, I felt there was more than one stone present. However, I soon crushed what my lithotrite would grasp, washed out over two drachms, and was surprised to learn that my searcher failed to discover any more. I said to my assistants that this man had a sacculated bladder due to an enlarged prostate, and that the fragments or other calculi had escaped observation. He recovered rapidly, and was much more comfortable for a time after this operation. March 17, 1890, he returned to the hospital with a renewal of old symptoms. Suprapubic operation was decided upon. Operation March 18, done in usual manner. Four small stones removed, the largest the size of a hazelnut. The middle lobe or isthmus of the prostate gland was found enlarged and projecting like a full-sized bean. This I crushed off by means of Thompson's forceps. T drainage left in. Considerable pain followed operation. Drainage tube removed on the third day. At this time patient developed a severe cystitis; urine very alkaline. Bladder washed out with a very weak solution of nitric acid, and phosphoric and dilute nitro-muriatic acid given internally, until reaction of urine changed, then boric acid as a wash used. In the second week he developed a severe orchitis that went on to suppuration, and later on a urethritis; abscesses were opened in several places, after which patient went on to a good recovery, with the wound entirely healed, and was discharged from the hospital May 7, 1890. Was obliged to use catheter about every three hours. This patient, I am sure, would have been much better had he allowed us to establish a suprapubic fistula, but he was so worried that it might not heal that he would not permit it.

Case VI.—Mr. T. W. C., æt. 72 years, has suffered for eighteen months with symptoms of vesical irritation and enlarged prostate. Has been obliged to use the catheter for

over a year. On examination March 13, 1890, I recognized an enlarged prostate, which had been diagnosed by his family physician, Dr. Moriarta; also by use of sound discovered a stone lying in the inferior fundus of the bladder. He had present a very decided chronic cystitis, which caused him much suffering. After careful consideration of his case, I decided best to do a suprapubic cystotomy, with a view of obtaining drainage and placing the prostate at entire rest. On April 23 I operated, removing a phosphatic stone weighing three drachms; no cysts of the bladder, but the viscus showed evidence of a very decided chronic cystitis, and the prostate was enlarged. Trendelenberg drainage tube introduced and bladder sutured around it; linea alba brought together with deep catgut sutures and superficial wound closed in same way around the tube. Drainage was perfect. The bladder was washed out daily through the urethra, by Dr. Moriarta, and up through the drainage tube. Marked change for the better was observed at once. Immediate result was absolute relief; subsequent history was the continued use of the drainage tube, which was still retained up to May 17, when I advised the family physician to remove it. He is now wearing the silver plug; can retain urine for two or three hours, and then passes it in a distinct stream through fistulous tract.

In all these cases of enlarged prostate the gland becomes, as it were, water soaked, and by giving it entire rest, not using urethra for any purpose, it is drained, as it were, and the retrograde atrophy begins, which goes on to patient's complete restoration to health.

Case VII.—Mr. C. G., æt. 75 years, married, native of United States, farmer by occupation, admitted to Albany Hospital May 9, 1890. Family history good. Patient has always enjoyed good health, except for a dyspepsia that he has had for some time. Habits good. Present trouble began about ten years ago. Before that time he had been living in Madison county, and drank considerable very hard water. He states that he often noticed a hard, chalky deposit lining the cooking utensils. His first symptoms were periodic attacks of renal colic, very severe and lasting at times for two or three days. These attacks seemed to follow any unusual exertion. About two years ago, while lifting a heavy trunk, he noticed a sudden sharp pain in the region of the bladder. This pain has never left him. Since that day he has complained of frequent micturition, with pain following; pain at end of penis and along perineum. Patient has greatest ease while lying on his side in making water. Gives no history of kidney complications. On

examination, found prostate very much enlarged. Stone suspected and found without trouble. After suprapubic operation, May 19, patient progressed without any unpleasant complications whatever, was comfortable and not at all distressed in any way. Bowels moved on third day, and continued to do so every other day. Temperature at times reached 101.5°. He was unable to take much in the form of nourishment, and on the morning of May 23 he began to show symptoms of great exhaustion. While every effort was made to restore him, he continued to grow weaker, and died May 24, 1890.

Autopsy six hours after death. Body emaciated; rigor mortis well marked; abdomen distended; incision gaping; stitches not found; evidence of suppuration about wound; a good-sized abscess in lower angle. Abdomen opened in usual manner; intestines protruded forward when incision was made; thorax not examined; stomach not opened; liver and spleen normal; kidneys surgical, the left enlarged and right contracted to size of small butternut. Ureter on left side normal, but on right side enlarged. Mesentery normal. Evidence of localized peritonitis about wound. Bladder ulcerated, congested and very much contracted. Prostate size of small orange. Seminal vesicles filled with a calcareous deposit.

I am of the impression that a double drainage tube arranged so as to wash out from the incision, having one tube a little longer than the other, and to give the prostate entire rest, would be a wise thing in these cases. There is great œdema of the glands in all of these cases, and prolonged rest is of great service in this direction. It is possible that a speculum may yet be invented that may be of service in examining the bladder through the suprapubic incision, but properly constructed retractors will probably render the most good.

Dr. John O. S. Davis, of Birmingham, Ala., has written a very excellent article on the subject of suprapubic puncture, read at the fortieth annual meeting of the American Medical Association, June, 1889, and reprinted from the *Journal of the American Medical Association*, February 8, 1890, in which he recommends the use of a large trocar through which a drainage tube can be introduced, drainage at this point being of great value.